Amdt. Dated May 13, 2010

Reply to Board of Appeal Decision of March 15, 2010

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the

application:

**Listing of Claims:** 

1. (Currently Amended) A method of determining whether a printed-image-under-

examination (PIUE) is a copy of an original printed image, the method comprising:

(a) scanning the PIUE to generate scanned image data, the scanned image

data comprising pixel data, the pixel data comprising gray scale values and

representing the PIUE as a set of scanning pixels;

(b) forming a plurality of data blocks from the scanned image data, each data

block consisting of pixel data which corresponds to a respective region of the PIUE;

(c) transforming the pixel data in at least some of the data blocks to obtain

transform domain data by applying at least one of a Fourier transform, a fast Fourier

transform, a discrete cosine transform (DCT) and a wavelet transform to the pixel data

in the at least some of the data blocks to obtain the transform domain data;

(d) applying a watermark detecting operation to the transform domain data for

respective ones of the data blocks to generate recovered watermark data; and

(e) determining a correlation between the recovered watermark data for at least

some of the data blocks and average a brightness levels forof said data blocks.

Page 2 of 8

{(0118417.1)}

Appln. No.: 10/720,292 Amdt. Dated May 13, 2010

Reply to Board of Appeal Decision of March 15, 2010

2. (Currently Amended) The method according to claim 1, further comprising:

(f) determining that the PIUE is a copy of the original printed image if a strength of a brightness level of the recovered watermark data is negatively correlated with the brightness levels forof said data blocks.

## 3. (Cancelled)

- 4. (Original) The method according to claim 1, wherein the watermark detecting operation includes multiplying the transform domain data with a detecting function.
- 5. (Original) The method according to claim 4, wherein the detecting function is  $e^{ikr}$ , where k and r are phase space indices applicable to the transform domain data.
- 6. (Original) The method according to claim 4, wherein the detecting operation further includes applying an envelope function to the transform domain data that has been multiplied by the detecting function.
- 7. (Original) The method according to claim 6, wherein the detecting operation further includes applying an inverse transform to the transform domain data that has been multiplied by the detecting function and to which the envelope function has been applied.

Amdt. Dated May 13, 2010

Reply to Board of Appeal Decision of March 15, 2010

8. (Previously Presented) The method according to claim 1, wherein the PIUE is part

of a postal indicium.

9. (Previously Presented) The method according to claim 1, wherein at least one of

the regions of the PIUE overlap with one or more other regions of the PIUE to which

the data blocks correspond are overlapping with each other.

10. (Currently Amended) A method of determining whether a printed-image-under-

examination (PIUE) is a copy of an original printed image, the original printed image

including a watermark applied to the image using a plurality of wave vectors, the

method comprising:

(a) scanning the PIUE to generate scanned image data, the scanned image

data comprising pixel data, the pixel data comprising gray scale values and

representing the PIUE as a set of scanning pixels;

(b) forming a plurality of data blocks from the scanned image data, each data

block consisting of pixel data which corresponds to a respective region of the PIUE;

(c) transforming the pixel data in at least some of the data blocks to obtain

transform domain data\_by applying at least one of a Fourier transform, a fast Fourier

transform, a discrete cosine transform (DCT) and a wavelet transform to the pixel data

in the at least some of the data blocks to obtain the transform domain data;

Page 4 of 8

{10118417,1}

Amdt. Dated May 13, 2010

Reply to Board of Appeal Decision of March 15, 2010

(d) applying a watermark detecting operation to the transform domain data for respective ones of the data blocks to generate recovered watermark data; and

(e) determining at least one of (i) a correlation between the recovered watermark data for at least some of the data blocks and <u>aaverage</u> brightness levels for of said data blocks, and (ii) a correlation between the recovered watermark data and the wave vectors.

11. (Currently Amended) The method according to claim 10, further comprising:

(f) determining that the PIUE is a copy of the original printed image if a signal level of the recovered watermark data decreases with the brightness levels forof said data blocks.

12. (Previously Presented) The method according to claim 10, further comprising:

(f) determining that the PIUE is a copy of the original printed image if a signal level of the recovered watermark data increases with wavelengths of the wave vectors.

13. (Cancelled)

14. (Original) The method according to claim 10, wherein the watermark detecting operation includes multiplying the transform domain data with a detecting function.

Amdt. Dated May 13, 2010

Reply to Board of Appeal Decision of March 15, 2010

15. (Original) The method according to claim 14, wherein the detecting function is eikr, where k and r are phase space indices applicable to the transform domain data.

16. (Original) The method according to claim 14, wherein the detecting operation further includes applying an envelope function to the transform domain data that has been multiplied by the detecting function.

17. (Original) The method according to claim 16, wherein the detecting operation further includes applying an inverse transform to the transform domain data that has been multiplied by the detecting function and to which the envelope function has been applied.

18. (Previously Presented) The method according to claim 10, wherein the PIUE is part of a postal indicium.

19. (Previously Presented) The method according to claim 10, wherein at least one of the regions of the PIUE overlap with one or more other regions of the PIUE to which the data blocks correspond are overlapping with each other.

20. (Cancelled)

Appln. No.: 10/720,292 Amdt. Dated May 13, 2010 Reply to Board of Appeal Decision of March 15, 2010	
21.	(Cancelled)
22.	(Cancelled)
23.	(Cancelled)
24.	(Cancelled)
25.	(Cancelled)

26. (New) The method according to claim 1, wherein the brightness of said data blocks is determined by calculating an average gray scale value of said data blocks.